MISCELLANEOUS PHENOMENA.

DROUTH.

Drouth prevailed in north and south Florida, Mississippi, Louisiana, Arkansas, Maryland, Pennsylvania, east-central and west New York, central Massachusetts, Tennessee, Ohio, Indiana, Iowa, Michigan, Wisconsin, Minnesota, and North and South Dakota. At Key West, Fla., a water famine was averted by opening to the public large cisterns at Fort Taylor and the Barracks. In Georgia the drouth was broken on the 4th. In South Carolina the first half of the month was dry. In Mississippi all vegetation was in need of rain at the close of the month. In Louisiana the drouth was the most prolonged of any noted since the establishment of Signal Service stations, and vegetation suffered severely, notably in the south part of the state. In north Arkansas the month was reported the driest May since 1881, and crops were suffering. In Virginia, West Virginia, and Maryland the early part of the month was very dry. In parts of Pennsylvania and New York crops were retarded and injured by dry weather. In central Massachusetts drouth prevailed during the month. In Tennessee the drouth, which prevailed almost unbroken, was the most severe experienced in many years, more especially in the middle and eastern divisions, and was very damaging to crops. In Ohio, Indiana, and Kentucky the dry spell was broken by rain on the 20th and 21st. In Iowa the early part of the month was very dry and unfavorable for grain. In Michigan all parts of the state, except the southwest portion, suffered from drouth which began April 21st and was not broken until May 20th. In Wisconsin severe drouth prevailed, except in south, west, and northwest parts of the state. In Minnesota and the Dakotas the drouth was broken on the 18th and 19th, previous to which dates crops were in a bad condition.

FOREST FIRES.

On the 1st forest fires were raging in the pine and cranberry districts of south New Jersey, and near Reading and Wellsborough, Pa., and Newburgh, N. Y. In central Pennsylvania the forest fires of the first half of the month destroyed an immense amount of valuable timber and property. From the 9th to 21st forest fires raged in the upper part of the peninsula of Michigan, destroying thousands of acres of timber. The villages of Clinton, Altona, and Walkersville were reported destroyed, and dense smoke interrupted navigation on the Straits of Mackinac. Forest fires caused great damage in Douglas Co., Wis., and about Duluth, Minn.

SUN SPOTS.

Mr. D. E. Hadden, Alta, Iowa: 1st, 3 groups; group in faculæ nw. disappearing by solar rotation. 2d, 2 groups, 3 spots; large spot disappearing by rotation; faculæ by rotation in on e. and se. limbs. 5th, 2 groups, 9 spots; groups in large areas; faculæ by rotation on se. and ne. limbs 1 day in. 6th, 2 groups, 7 spots; faculæ w. disappearing by rotation. 7th, 2 groups, 7 spots. 8th, 3 groups, 11 spots; new group with faculæ by rotation; aurora preceding evening. 9th, 3 groups. 10th, 3 groups, 25 spots. 11th, 5 groups, 20 spots; group faculæ by rotation e. limb; new group e. limb, and faculæ nw. 12th, 5 groups; new group by rotation se. limb. 13th, 5 groups, 12 spots; faculæ by rotation e. limb; extensive area of faculæ nw.; aurora in evening to 3 a. m. 14th. 14th, 5 groups, 10 spots; aurora in evening to 3.30 a. m. 15th. 15th, 4 groups. 16th, 3 groups, 9 spots; group by rotation e. limb. 17th, 3 groups. 18th, 4 groups, 13 spots; new group by rotation se. limb; faculæ by rotation. 19th, 5 groups; 24 spots; new group with faculæ by rotation in on e. limb; faculæ by rotation e. limb; group very extensive. 22d, 5 groups. 23d, 4 groups, 32 spots; prominent faculæ w. and sw. 24th, group by rotation se. limb. 25th, 5 groups, 26 spots; 3 groups n., 2 groups s. latitude. 26th, 5 groups, 25 spots. 27th, 5 groups, 27 spots; group w. limb disappearing by rotation. 28th, 3 groups; new group with faculæ by rotation e. limb; aurora preceding evening. 29th, 4 groups, 23 spots; faculæ by rotation e. limb. 30th, 3 groups, 13 spots. 31st, 3 groups, 13 spots; group faculæ by rotation on e. limb.

Mr. John W. James, Riley, Ill.: 1st, large spot of April 30th disappeared by solar rotation. 5th, 1 large and 2 small spots 1 day in on east edge, in south latitude; faculæ near east edge, north latitude. 7th, 1 new spot 3 days in east. 10th, 2 new spots near sun's meridian. 13th, 1 new group 1 day in east. 17th, large spot that disappeared in west on the 1st reappeared in east. 18th, 1 new spot near east edge. 21st, 1 new group near east edge. 24th, 1 new spot on east edge south latitude. 25th, 2 small spots. 26th, 1 faint group 3 days in on east. 27th, group of 13th disappeared on west edge; 2 new spots in sw. 28th, 1 new spot on east edge; prominent faculæ on west limb. 30th, 2 new spots, 2 days in; faculæ on west limb. 31st, all spots gone, except groups of 21st and 28th.

Mr. H. D. Gowey, North Lewisburgh, Ohio: sun spots were observed on the 1st, 2d, and 6th to 31st.

Haverford College Observatory, Pa. (observed by Prof. F. P. Leavenworth):

Date.	Number of new		Disappeared by solar rotation.		Reappeared by solar rotation.		Total number visible.		Faculæ.	Remarks.
	Groups.	Spots.	Groups.	Spots.	Groups.	Spots.	Groups.	Spots.	Groups.	
May, 1891.										
1, 10 a. m...	2	12	0	0	0	0	4	29	2	Definition good.
2, 10 a. m...	1	6	1	5	0	0	3	13	2	Definition good; 1 large spot.
3, 2 p. m...	0	0	1	2	0	0	1	2	2	Definition fair.
4, 12 m.....	3	9	0	0	0	0	4	12	4	Definition poor; 1 large spot.
5, 12 m.....	0	0	2	5	0	0	2	9	2	Definition poor; 2 large spots.
6, 9 a. m...	0	0	0	0	0	0	2	16	2	Definition poor; 1 large spot.
7, 9 a. m...	1	1	0	0	0	0	3	10	2	Definition poor; 1 large spot.
8, 12 m.....	2	3	0	0	0	0	4	35	2	Definition good.
9, 9 a. m...	1	1	0	0	0	0	4	44	3	Definition good.
10, 8 a. m...	1	1	0	0	0	0	4	77	0	Definition good; 1 large spot.
11, 4 p. m...	2	3	0	0	0	0	6	40	4	Definition fair; 4 large spots.
12, 10 a. m...	1	5	1	3	0	0	6	37	3	Definition fair; 2 large spots.
13, 10 a. m...	2	7	1	13	0	0	6	16	4	Definition poor; 3 large spots.
17, 10 a. m...	0	0	0	0	0	0	4	24	1	Definition fair.
18, 10 a. m...	1	3	0	0	0	0	4	32	3	Definition good; 4 large spots.
19, 9 a. m...	1	1	0	0	0	0	5	55	3	Definition fine; 4 large spots.
20, 11 a. m...	0	0	0	0	0	0	5	40	1	Definition fair; 4 large spots.
21, 9 a. m...	2	9	0	0	0	0	7	59	2	Definition fair.
22, 9 a. m...	2	4	0	0	0	0	9	81	2	Definition fair.
27, 1 p. m...	0	0	0	0	0	0	3	18	0	Definition bad.
28, 12 m.....	1	1	0	0	0	0	5	46	3	Definition poor; 1 large spot.
31, 9 a. m...	0	0	1	3	0	0	3	30	1	Definition fair; 1 large spot.

VERIFICATIONS.

FORECASTS FOR 48 AND 72 HOURS IN ADVANCE.

Appreciating the great importance that long time predictions possess for the general public the Chief Signal Officer has authorized forecasts for 48 and 72 hours, covering the 2d and 3d days in advance. These are optional with the forecast official, and are only made when clearly in the public interest, and cover, in all cases, considerable areas of country, and are not confined to localities.

Percentages of verifications made for second day in advance. Number of predictions made: weather, 92; temperature, 37. Percentages of verifications: weather, 91.8; temperature, 97.0; weather and temperature combined, 93.0.